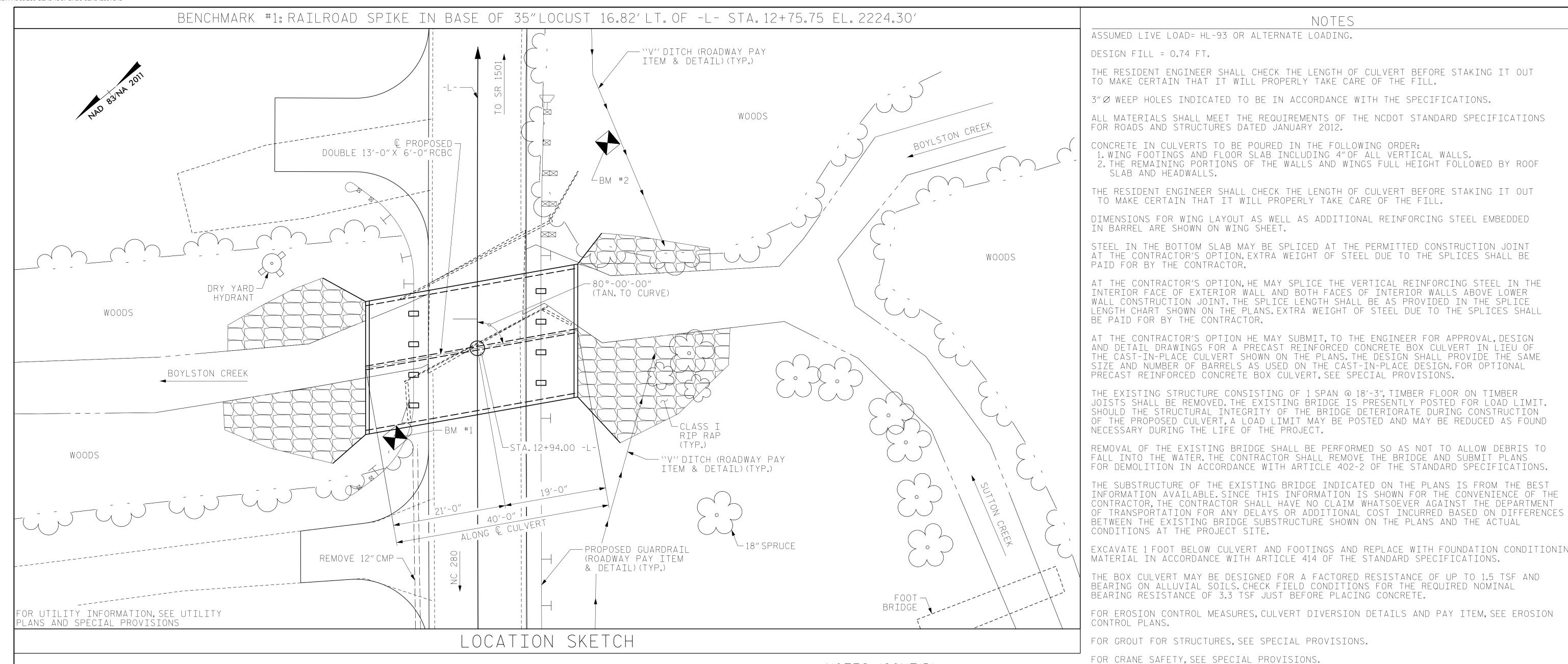
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26'-8"

EL. 2217.6 ± —

NOTES (CONT'D)

A 3 FOOT STRIP OF FILTER FABRIC SHALL BE ATTACHED TO THE FILL FACE OF THE WING COVERING THE ENTIRE LENGTH OF THE EXPANSION JOINT.

NATIVE MATERIAL CONSISTS OF MATERIAL THAT IS EXCAVATED FROM THE STREAM BED AT THE PROJECT SITE DURING CULVERT CONSTRUCTION. ONLY MATERIAL THAT IS EXCAVATED FROM THE STREAM BED MAY BE USED TO LINE THE LOW FLOW CULVERT BARREL. RIP RAP MAY BE USED TO SUPPLEMENT THE NATIVE MATERIAL IN THE HIGH FLOW CULVERT BARREL. IF RIP RAP IS USED TO LINE THE HIGH FLOW CULVERT BARREL, NATIVE MATERIAL SHOULD BE PLACED ON TOP TO FILL VOIDS AND PROVIDE A FLAT SURFACE FOR ANIMAL PASSAGE. BACKFILL RIP RAP IN FLOODPLAIN BENCHES OF CHANNEL IMPROVEMENTS WITH NATIVE MATERIAL TO FILL VOIDS. NATIVE MATERIAL IS SUBJECT TO APPROVAL BY THE ENGINEER AND MAY BE

GRADE POINT ELEV. @ STA.12+94.00 -L-BED ELEV.

= 2224.48 = 2216.62 = VARIES

HYDRAULIC DATA

DESIGN DISCHARGE FREQUENCY OF DESIGN FLOOD DESIGN HIGH WATER ELEVATION DRAINAGE AREA

BASE HIGH WATER ELEVATION

OVERTOPPING FLOOD DATA

SEAL 18442 5/9/2017

www.rsandh.com

North Carolina License Nos. 50073 * F-0493 * C-28

Raleigh, NC 27615 919-926-4100 FAX 919-846-9080

FOR BRIDGE OVER BOYLSTON CREEK ON SR 1502 BETWEEN NC 280 AND SR 1501

C - 1 BY: DATE: DATE: NO. BY: TOTAL SHEETS RLB 05/05/17

GRADE DATA

ROADWAY SLOPES

= 600 CFS = 10 YRS = 2223.6 = 2.74 SQ. MI. = 1200 CFS BASE DISCHARGE (Q100) = 2225.29

OVERTOPPING DISCHARGE = 725 CFS FREQUENCY OF OVERTOPPING FLOOD = 10 YRS+ OVERTOPPING FLOOD ELEVATION = 2224.2

SPECIFICATIONS.

THIS BRIDGE IS LOCATED IN SEISMIC ZONE 1. FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FINAL UNLESS ALL

SIGNATURES COMPLETED

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

THIS STRUCTURE SHALL BE DESIGNED IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN

PROJECT NO. <u>17BP.14.R.1</u>27

TRANSYLVANIA COUNTY CUMENT NOT CONSIDERED

STATION: 12+94.00 -L-

CONCRETE BOX

SHEET 1 OF 6

REPLACES BRIDGE NO. 106

STATE OF NORTH CAROLINA

RALEIGH

DEPARTMENT OF TRANSPORTATION

NOTES

THE RESIDENT ENGINEER SHALL CHECK THE LENGTH OF CULVERT BEFORE STAKING IT OUT

2. THE REMAINING PORTIONS OF THE WALLS AND WINGS FULL HEIGHT FOLLOWED BY ROOF

THE RESIDENT ENGINEER SHALL CHECK THE LENGTH OF CULVERT BEFORE STAKING IT OUT

THE CAST-IN-PLACE CULVERT SHOWN ON THE PLANS. THE DESIGN SHALL PROVIDE THE SAME SIZE AND NUMBER OF BARRELS AS USED ON THE CAST-IN-PLACE DESIGN. FOR OPTIONAL

JOISTS SHALL BE REMOVED. THE EXISTING BRIDGE IS PRESENTLY POSTED FOR LOAD LIMIT.

REMOVAL OF THE EXISTING BRIDGE SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO

THE SUBSTRUCTURE OF THE EXISTING BRIDGE INDICATED ON THE PLANS IS FROM THE BEST INFORMATION AVAILABLE. SINCE THIS INFORMATION IS SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR, THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE DEPARTMENT

EXCAVATE 1 FOOT BELOW CULVERT AND FOOTINGS AND REPLACE WITH FOUNDATION CONDITIONING

THE BOX CULVERT MAY BE DESIGNED FOR A FACTORED RESISTANCE OF UP TO 1.5 TSF AND

FOR EROSION CONTROL MEASURES, CULVERT DIVERSION DETAILS AND PAY ITEM, SEE EROSION

THE EXISTING STRUCTURE CONSISTING OF 1 SPAN @ 18'-3", TIMBER FLOOR ON TIMBER

ASSUMED LIVE LOAD= HL-93 OR ALTERNATE LOADING.

SLAB AND HEADWALLS.

CONCRETE IN CULVERTS TO BE POURED IN THE FOLLOWING ORDER:

1. WING FOOTINGS AND FLOOR SLAB INCLUDING 4"OF ALL VERTICAL WALLS.

TO MAKE CERTAIN THAT IT WILL PROPERLY TAKE CARE OF THE FILL.

RS&H Architects-Engineers-Planners, Inc. 8601 Six Forks Road, Suite 260

SHEET NO REVISIONS

PROFILE ALONG © CULVERT

23'-4"

EL. 2217.8 ± —

26'-8"

EL. 2217.7 ± —

ARE THE AS-BUILT PLANS	 $\frac{1}{2}$
	CL
	В
	W
	S

23'-4"

EL. 2217.6 ± —

MAL _ DATE : <u>05/2015</u> DRAWN BY : JMR _ DATE : <u>05/2015</u> CHECKED BY : _ DESIGN ENGINEER _ DATE : <u>05/2015</u> OF RECORD: __

HEREBY CERTIFY THESE PLANS

EL. 2217.7 ± —

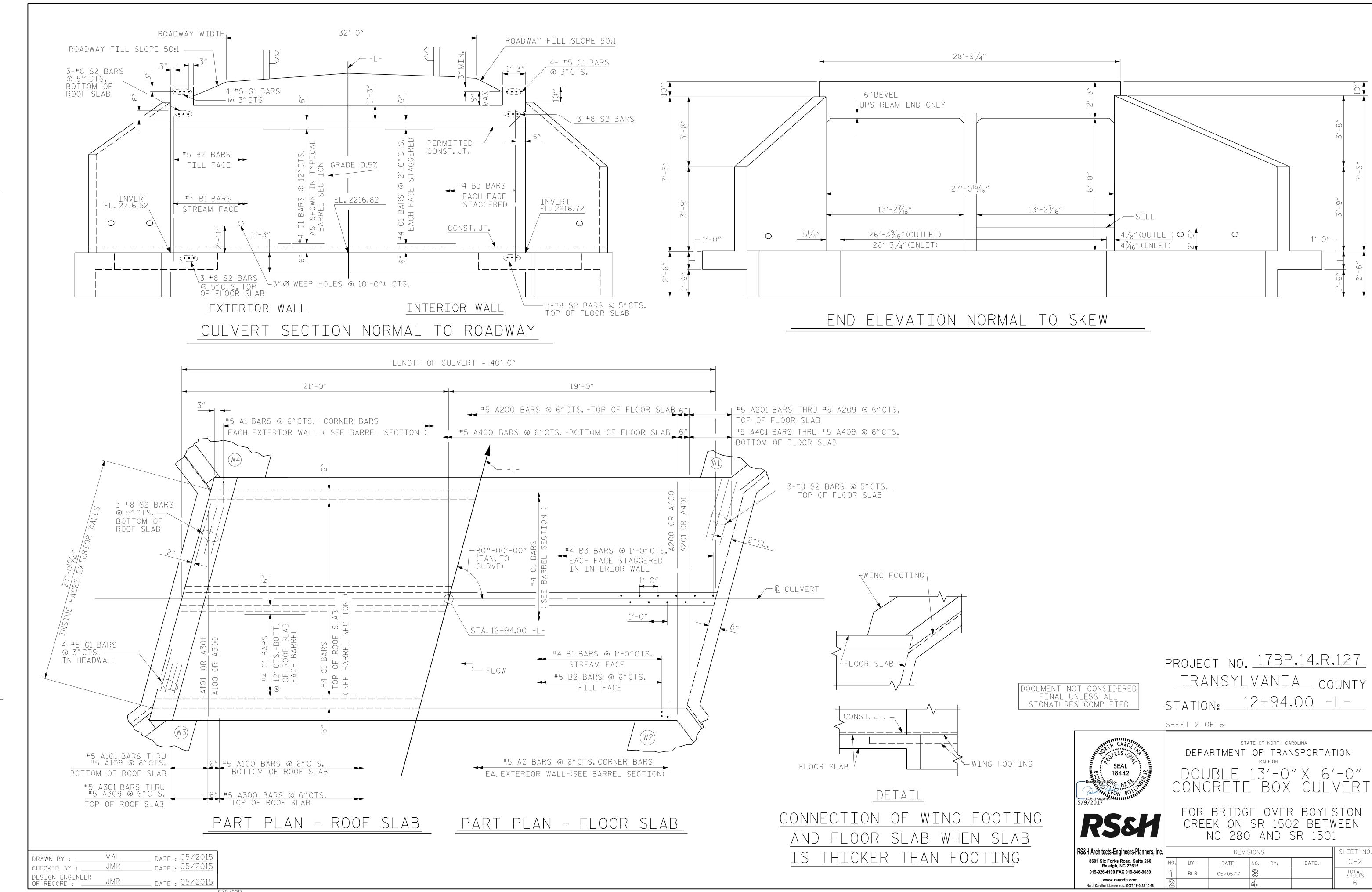
TOTAL STRUCTURE QUANTITIES LASS A CONCRETE BARREL @ 3.150 CY/FT 126.0 C.Y. 21.8 C.Y. 'ING ETC. 2.0 C.Y. ILLS __ 149.8 C.Y.

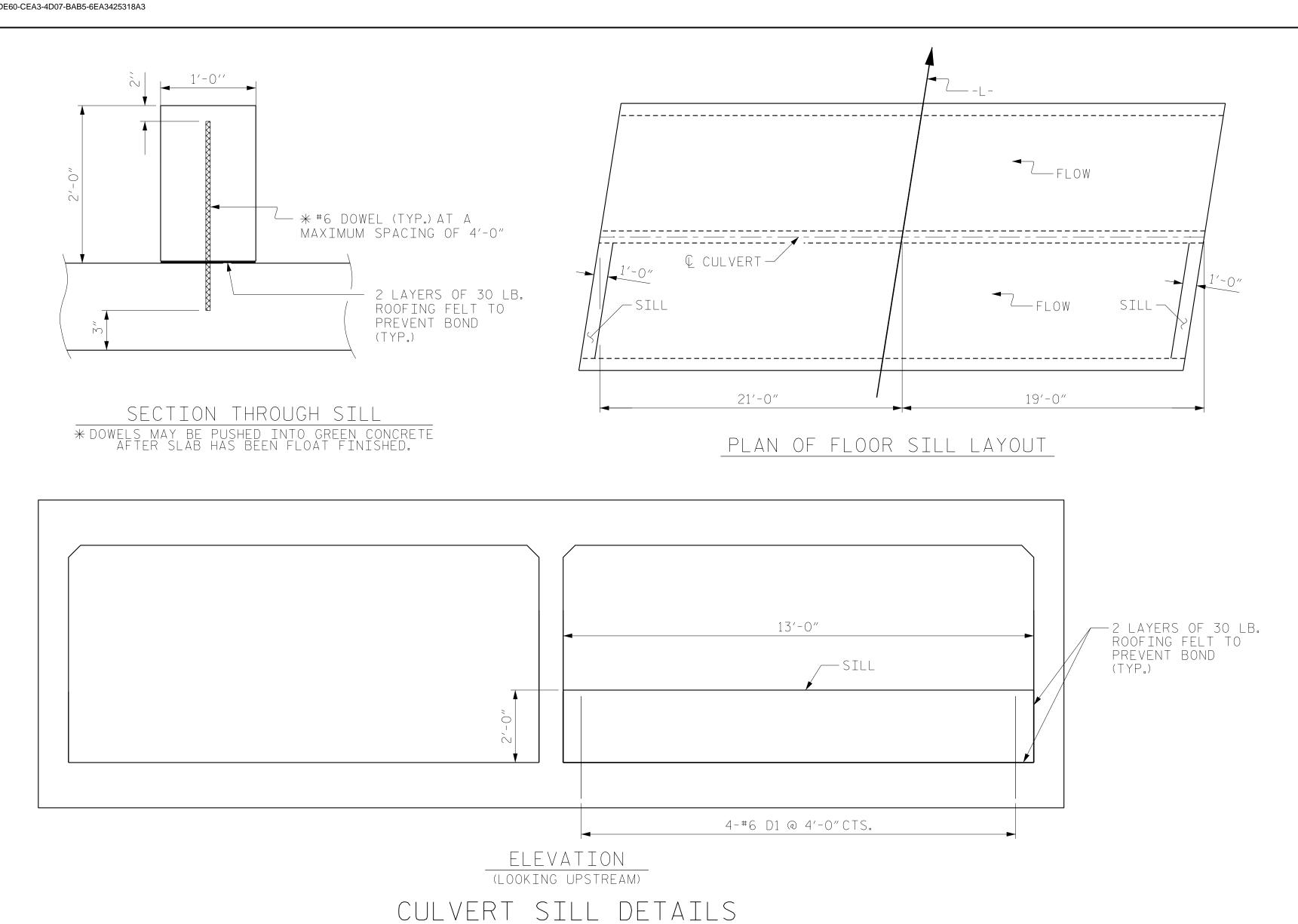
REINFORCING STEEL 16,223 LBS. BARREL 938 LBS. WINGS ETC.___ 17,161 LBS. TOTAL

RIP RAP, CLASS I 121 TONS GEOTEXTILE FOR DRAINAGE 142 SQ. YDS. CULVERT EXCAVATION LUMP SUM FOUNDATION COND. MAT'L. 80 TONS REMOVAL OF EXISTING STRUCTURE LUMP SUM CHANNEL SUBSTRATE MATERIAL 15 TONS ASBESTOS ASSESSMENT LUMP SUM

SUBJECT TO PERMIT CONDITIONS.

FOR ASBESTOS ASSESSMENT, SEE SPECIAL PROVISIONS.





BAR TYPE BILL OF MATERIAL (CONT'D) BILL OF MATERIAL BAR | NO. | SIZE | TYPE | LENGTH | WEIGHT | BAR | NO. | SIZE | TYPE | LENGTH | WEIGHT B1 | 80 | #4 | STR | 8'-1" 432 A1 | 158 | #5 | 1 | 4'-8" 769 B2 | 158 | #5 | STR | 5'-4" A2 | 158 | #5 | 1 | 4'-8" 879 769 B3 80 #4 STR 8'-1" 432 VERTICAL LEG — 2044 A100 | 70 | #5 | STR | 28'-0" C1 | 180 | #4 | STR | 20'-10" 2505 #5 | STR | 25'-9" 54 A1·02 2 #5 | STR | 22'-11" 48 A1·03 2 #5 | STR | 20'-1" D1 | 8 | #6 | STR | 2'-10" 42 34 A1·04 2 #5 | STR | 17'-3" 36 A1·05 2 #5 | STR | 14'-5" G1 | 8 | #5 | STR | 28'-5" 30 237 A1·06 2 #5 | STR | 11'-7" 24 \$2 | 12 | #8 | STR | 28'-5" 910 A1:07 | 2 #5 | STR | 8'-9" 18 BAR DIMENSIONS ARE OUT TO OUT A1·08 | 2 #5 | STR | 5'-11" 12 SPLICE LENGTHS CHART A1·09 | 2 | #5 | STR | 3'-1" REINFORCING STEEL 16,223 LBS SIZE | SPLICE LENGTH A2·00 70 #5 STR 28′-0″ 2044 C1, B1, B3 #4 1'-11" #5 | STR | 25'-9" 54 #5 | STR | 22'-11" 48 #5 | STR | 20'-1" 42 A204 2 #5 | STR | 17'-3" 36 #5 | STR | 14'-5" 30 A206 2 #5 | STR | 11'-7" 24 #5 | STR | 8'-9" 18 A208 2 #5 | STR | 5'-11" 12 A2·09 2 | #5 | STR | 3'-1" A300 70 | #5 | STR | 28'-0" 2044 #5 | STR | 25'-9" 54 #5 | STR | 22'-11" 48 A303 2 #5 | STR | 20'-1" 42 A304 2 #5 | STR | 17'-3" 36 #5 | STR | 14'-5" 30 #5 | STR | 11'-7" A306 2 24 #5 | STR | 8'-9" 18 A308 2 #5 | STR | 5'-11" 12 A309 2 #5 STR 3'-1"

13'-0" 13'-0" C1 BARS @ 1'-0"CTS. 2"HIGH BEAM BOLSTERS
(B.B.) @ 4'-0"CTS. - ★ 9 1/2" HIGH C.H.C.U. - PERMITTED CONST. JT. -A300 BARS A1 BARS 👡 ∠A100 BARS 2"CL. B1 BARS * ALL CONTINUOUS HIGH CHAIR UPPER B2 BARS-B3 BARS→ (C.H.C.U.) @ 3'-0" $*8\frac{1}{2}$ "HIGH C.H.C.U. 3″Ø WEEP HOLES ─ - PERMITTED

28'-4"

RIGHT ANGLE SECTION OF BARREL

CONST. JT.

C1 BARS @ 1'-0"CTS.

THERE ARE 90 "C" BARS IN SECTION OF BARREL.

OCUMENT NOT CONSIDEREI FINAL UNLESS ALL SIGNATURES COMPLETED

PROJECT NO. <u>178P.14.R.127</u> TRANSYLVANIA _ COUNTY

A400 70 | #5 | STR | 28'-0"

A404 | 2 | #5 | STR | 17'-3"

A408 2 #5 STR 5'-11"

A402

A403 2

A405 2

A406 2

A407 2

#5 | STR | 25'-9"

#5 | STR | 22'-11"

#5 | STR | 20'-1"

#5 | STR | 14'-5"

#5 | STR | 11'-7"

#5 | STR | 8'-9"

A409 2 #5 STR 3'-1" 6

2044

54

48

42

36

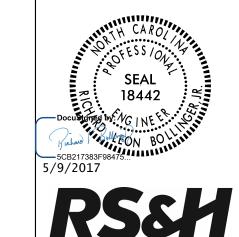
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24

18

12+94.00 -L-STATION:

SHEET 3 OF 6



RS&H Architects-Engineers-Planners, Inc.

919-926-4100 FAX 919-846-9080

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

FOR BRIDGE OVER BOYLSTON CREEK ON SR 1502 BETWEEN NC 280 AND SR 1501

SHEET NO REVISIONS C-3 DATE: DATE: TOTAL SHEETS RLB 05/05/17

5/9/2017 Y:\P\1033185000 Division 14 YR4 17BP Bridges Group 4\1033185106 Bridge 870106\Project Production\Design\Structures\DGN\B106-CU.dgn

∴ A2 BARS—

_ DATE : <u>05/2015</u>

_ DATE : 05/2015

_ DATE : 05/2015

MAL

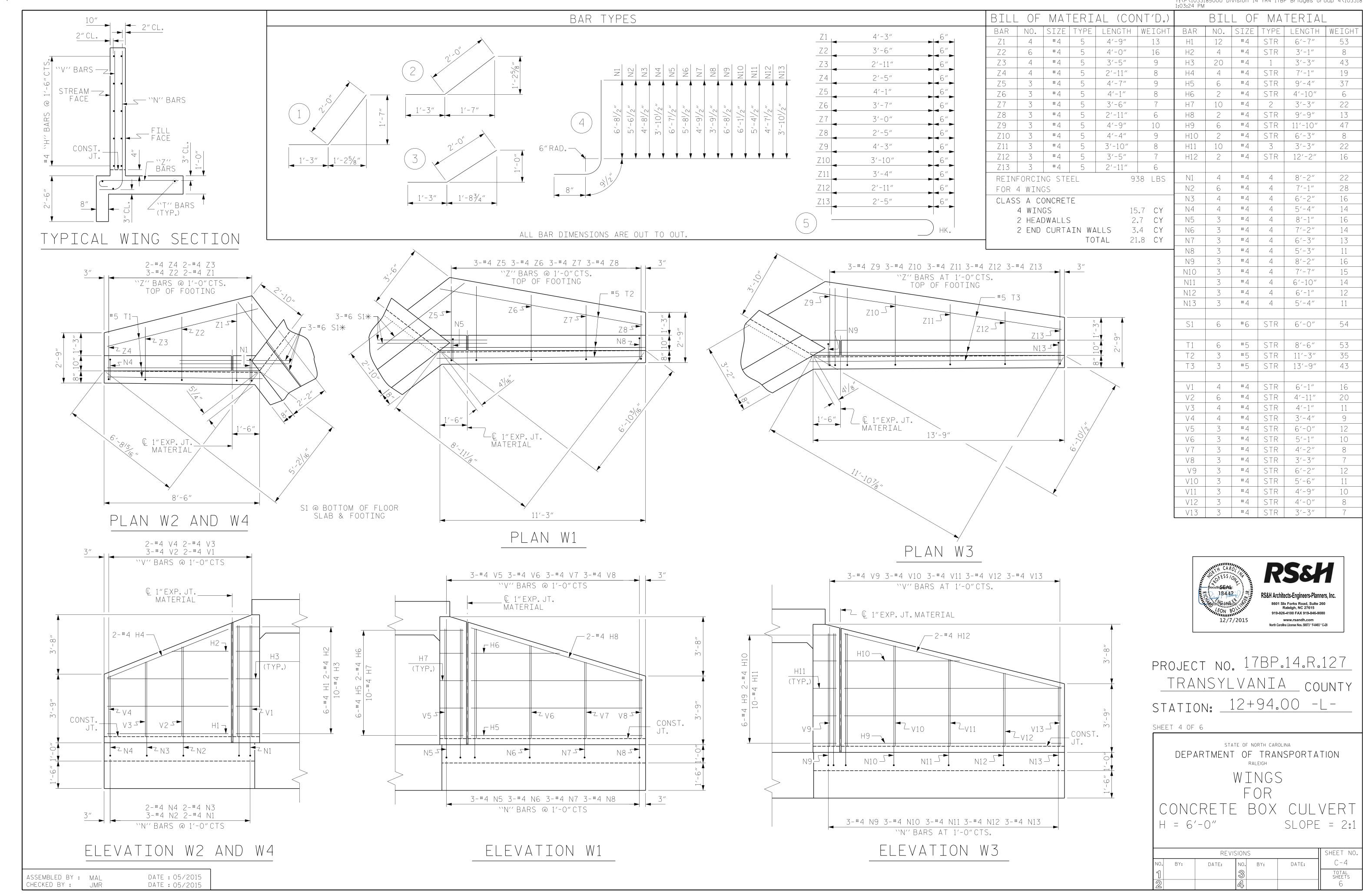
JMR

DRAWN BY : _

CHECKED BY : _

DESIGN ENGINEER OF RECORD: ____

∠ A400 BARS



CHECKED BY :

DRAWN BY: FCJ 6/88

CHECKED BY : ARB 6/88

DATE: 05/2015

MAA/GM

REV.5/7/03 RWW/JTE

REV. 5/I/O6R KMM/GM

NOTES

THE GUARDRAIL ANCHOR ASSEMBLY FOR CULVERTS SHALL CONSIST OF THE FOLLOWING COMPONENTS:

- A. FERRULES SHALL BE MADE FROM STEEL MEETING THE REQUIREMENTS OF AASHTO M169. GRADE 12L14 AND SHALL HAVE A MINIMUM LENGTH OF THREADS OF 21/2".
- B. 4 1" \varnothing X 2 $\frac{1}{4}$ " BOLTS WITH WASHERS, BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307. BOLTS AND WASHERS SHALL BE GALVANIZED. (AT THE CONTRACTOR'S OPTION, STAINLESS STEEL BOLTS AND WASHERS MAY BE USED AS AN ALTERNATE FOR THE 1" \varnothing X $2^{1}/4$ " GALVANIZED BOLTS AND WASHERS. THEY SHALL CONFORM TO OR EXCEED THE MECHANICAL REQUIREMENTS OF ASTM A307. THE USE OF THIS ALTERNATE SHALL BE APPROVED BY THE ENGINEER.)
- C. WIRE STRUTS SHOWN IN THE GUARDRAIL ANCHOR ASSEMBLY FOR CULVERTS DETAIL ARE MINIMUM ALLOWABLE SIZE AND SHALL HAVE A MINIMUM TENSILE STRENGTH OF 100,000 P.S.I. AS AN OPTION, A $7_{16}^{\prime\prime}$ Ø WIRE STRUT WITH A MINIMUM TENSILE STRENGTH OF 90,000 PSI IS ACCEPTABLE.

GUARDRAIL ANCHOR ASSEMBLY WITH BOLTS SHALL BE ASSEMBLED IN THE SHOP. BOLT THREADS MAY BE RECUT AS NECESSARY TO INSURE FIT.

THE COST OF THE GUARDRAIL ANCHOR ASSEMBLY FOR CULVERTS COMPLETE IN PLACE, SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR CLASS "A" CONCRETE.

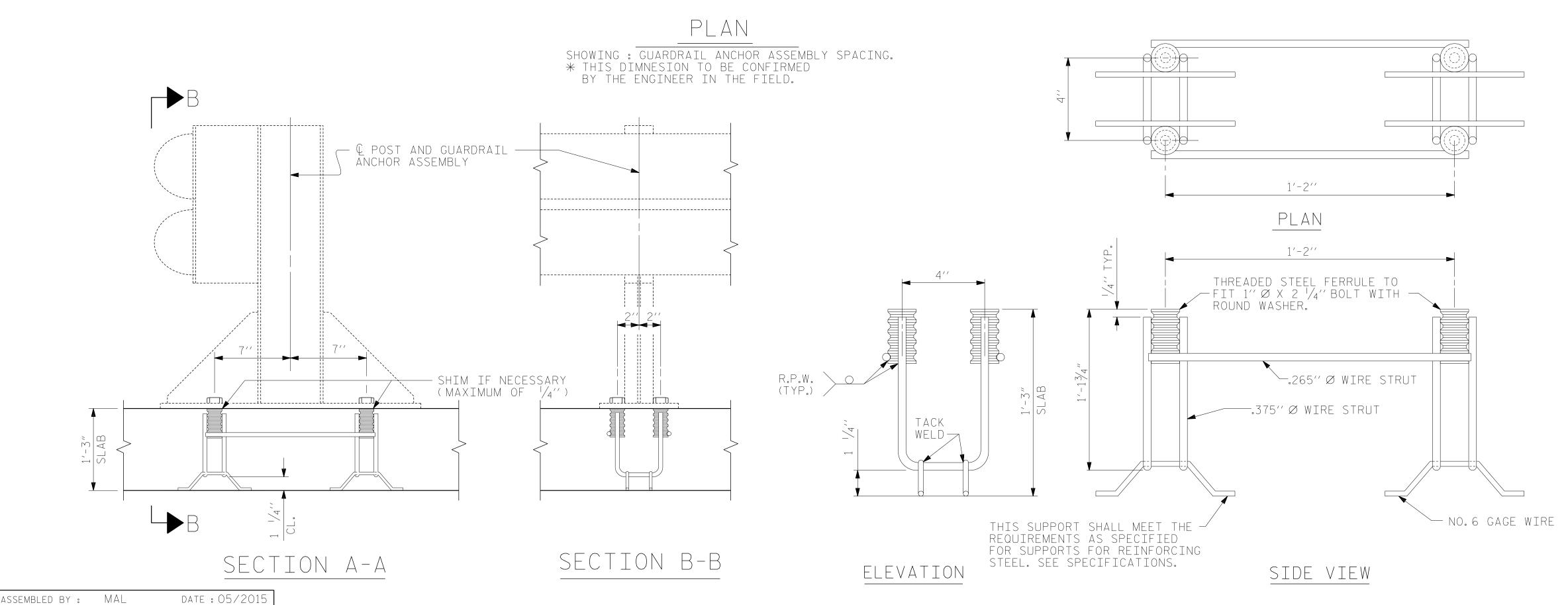
FERRULES TO BE PLUGGED DURING POURING OF SLAB AS RECOMMENDED BY THE MANUFACTURER.

AT THE CONTRACTOR'S OPTION, FERRULES WITH OPEN OR CLOSED ENDS MAY BE USED.

PAYMENT FOR GUARDRAIL, POSTS, AND POST BASE PLATES IS INCLUDED IN ROADWAY PAY ITEMS.

SLAB REINFORCING STEEL MAY BE SHIFTED AS NECESSARY TO CLEAR GUARDRAIL ANCHOR ASSEMBLY. CARE SHOULD BE TAKEN TO KEEP THE SHIFTING OF REINFORCING STEEL TO A MINIMUM.

THE CONTRACTOR MAY USE ADHESIVELY ANCHORED ANCHOR BOLTS IN PLACE OF GUARDRAIL ANCHOR ASSEMBLY. LEVEL TWO FIELD TESTING IS REQUIRED, AND THE YIELD LOAD OF THE 1" Ø BOLT IS 21.8 KIPS. FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS, SEE STANDARD SPECIFICATIONS.



___ 80°00′-00″

CULVERT

Q GUARDRAIL

ANCHOR ASSEMBLIES

 $14'-5^{1}/_{4}'' *$

RADIAL

←__ Ç GUARDRAIL

ANCHOR

ASSEMBLIES

STA.12+94.00 -L--

 $14'-5^{1}/_{4}'' *$

RADIAL

PROJECT NO. <u>178P.14.R.127</u> TRANSYLVANIA COUNTY STATION: 12+94.00 -L-

SHEET 5 OF 6



STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH

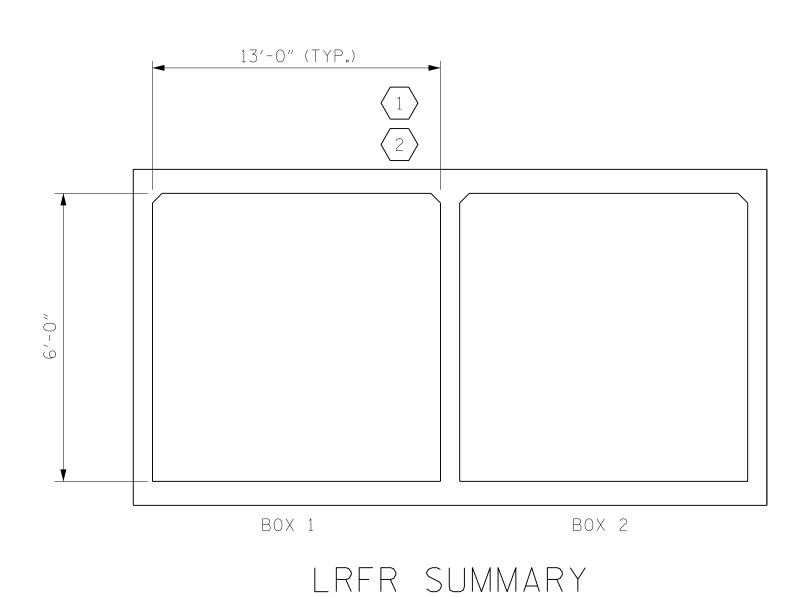
STANDARD

ANCHORAGE DETAILS FOR GUARDRAIL ANCHOR ASSEMBLY FOR CULVERTS

RS&H Architects-Engineers-Planners, Inc. SHEET NO REVISIONS 8601 Slx Forks Road, Sulte 260 Raleigh, NC 27615 C-5 DATE: DATE: BY: NO. BY: 919-926-4100 FAX 919-846-9080 TOTAL SHEETS www.rsandh.com North Carolina License Nos. 50073 * F-0493 * C-28

LOAD AND RESISTANCE FACTOR RATING (LRFR) SUMMARY FOR REINFORCED CONCRETE BOX CULVERTS

							STRENGTH I LIMIT STATE									
							MOMENT			SHEAR						
LEVEL		VEHICLE	WEIGHT (W) (TONS)	CONTROLLING LOAD RATING	MINIMUM RATING FACTORS (RF)	TONS = W x RF	LIVE-LOAD Factors (Y _{ll})	RATING FACTOR	BOX NO.	ELEMENT TYPE	DISTANCE FROM Left end of Element (ft)	RATING FACTOR	BOX NO.	ELEMENT TYPE	DISTANCE FROM Left end of Element (ft)	COMMENT NUMBER
		HL-93 (INVENTORY)	N/A	1	1.42		1.75	1.57	1	TOP SLAB	7.33	1.42	1	TOP SLAB	13.67	
DESIGN LOAD		HL-93 (OPERATING)	N/A		1.85		1.35	2.04	1	TOP SLAB	7.33	1.85	1	TOP SLAB	13.67	
RATING		HS-20 (INVENTORY)	36.000	2	1.61	57.96	1.75	1.61	1	TOP SLAB	13.67	1.62	1	TOP SLAB	13.67	
		HS-20 (OPERATING)	36.000		2.09	75.24	1.35	2.09	1	TOP SLAB	13.67	2.10	1	TOP SLAB	13.67	
		SNSH	13.500				1.40									
	Ш	SNGARBS2	20.000				1.40									
	ICLE	SNAGRIS2	22.000				1.40									
	E VEHICLE (SV)	SNCOTTS3	27.250				1.40									
	S) (S	SNAGGRS4	34.925				1.40									
	SINGL	SNS5A	35.550				1.40									
		SNS6A	39.950				1.40									
LEGAL		SNS7B	42.000				1.40									
LEGAL LOAD RATING	H H	TNAGRIT3	33.000				1.40									
- - - -	RAIL	TNT4A	33.075				1.40									
	SEMI-TRAILER	TNT6A	41.600				1.40									
	SEN ST)	TNT7A	42.000				1.40									
	TRACTOR (TTS	TNT7B	42.000				1.40									
	TRAC	TNAGRIT4	43.000				1.40									
		TNAGT5A	45.000				1.40									
	TRUCK	TNAGT5B	45.000				1.40									



__ DATE : <u>05/2015</u> __ DATE : <u>05/2015</u> DRAWN BY : _ JMR CHECKED BY : __ DESIGN ENGINEER OF RECORD : ____

__ DATE : <u>05/2015</u>

LOAD FACTORS:

DESIGN LOAD RATING FACTORS

LOAD TYPE	MAX FACTOR	MIN FACTOR			
DC	1.25	0.90			
DW	1.50	0.65			
EV	1.30	0.90			
EH	1.35	0.90			
ES	1.35	0.90			
LS	1.75				
WA	1.00				

NOTE

RATING FACTORS ARE BASED ON THE STRENGTH I LIMIT STATE.

COMMENTS:

(#) CONTROLLING LOAD RATING

1 DESIGN LOAD RATING (HL-93)

(2) DESIGN LOAD RATING (HS-20)

 $\sqrt{3}$ LEGAL LOAD RATING **

** SEE CHART FOR VEHICLE TYPE

PROJECT NO. <u>17BP.14.R.127</u> TRANSYLVANIA COUNTY STATION: 12+94.00 -L-

SHEET 6 OF 6



STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

RS&H Architects-Engineers-Planners, Inc. 8601 Slx Forks Road, Sulte 260 Raleigh, NC 27615 919-926-4100 FAX 919-846-9080 www.rsandh.com North Carolina License Nos. 50073 * F-0493 * C-28

SHEET NO. REVISIONS C-6 DATE: BY: DATE: NO. BY: TOTAL SHEETS

(LOOKING DOWNSTREAM)

STANDARD NOTES

DESIGN DATA:

SPECIFICATIONS ---- A.A.S.H.T.O. (CURRENT) ---- SEE PLANS LIVE LOAD IMPACT ALLOWANCE STRESS IN EXTREME FIBER OF STRUCTURAL STEEL - AASHTO M270 GRADE 36 - 20,000 LBS. PER SQ. IN. - AASHTO M270 GRADE 50W - 27,000 LBS.PER SQ.IN. - AASHTO M270 GRADE 50 - 27.000 LBS. PER SQ. IN. REINFORCING STEEL IN TENSION GRADE 60 - - 24,000 LBS. PER SQ. IN. CONCRETE IN COMPRESSION ----- 1,200 LBS. PER SQ. IN. CONCRETE IN SHEAR STRUCTURAL TIMBER - TREATED OR UNTREATED - EXTREME FIBER STRESS - - - - - 1,800 LBS. PER SQ. IN. COMPRESSION PERPENDICULAR TO GRAIN 375 LBS. PER SQ. IN. OF TIMBER - - - -

MATERIAL AND WORKMANSHIP:

EQUIVALENT FLUID PRESSURE OF EARTH ----

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2012 "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" OF THE N. C. DEPARTMENT OF TRANSPORTATION.

30 LBS. PER CU. FT.

(MINIMUM)

STEEL SHEET PILING FOR PERMANENT OR TEMPORARY APPLICATIONS SHALL BE HOT ROLLED.

CONCRETE:

UNLESS OTHERWISE REQUIRED ON PLANS, CLASS A CONCRETE SHALL BE USED FOR ALL PORTIONS OF ALL STRUCTURES WITH THE EXCEPTION THAT: CLASS AA CONCRETE SHALL BE USED IN BRIDGE SUPERSTRUCTURES, ABUTMENT BACKWALLS, AND APPROACH SLABS; AND CLASS B CONCRETE SHALL BE USED FOR SLOPE PROTECTION AND RIP RAP.

CONCRETE CHAMFERS:

UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED 3/4"WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO 1-1/2"RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A 1/4"FINISHING TOOL UNLESS OTHERWISE REQUIRED ON PLANS; AND CORNERS OF EXPANSION JOINTS IN THE ROADWAY FACES AND TOPS OF CURBS AND SIDEWALKS SHALL BE ROUNDED TO A 1/4"RADIUS WITH A FINISHING STONE OR TOOL UNLESS OTHERWISE REQUIRED ON PLANS.

DOWELS:

DOWELS WHEN INDICATED ON PLANS AS FOR CULVERT EXTENSIONS, SHALL BE EMBEDDED AT LEAST 12" INTO THE OLD CONCRETE AND GROUTED INTO PLACE WITH 1:2 CEMENT MORTAR.

ALLOWANCE FOR DEAD LOAD DEFLECTION, SETTLEMENT, ETC. IN CASTING SUPERSTRUCTURES:

BRIDGES SHALL BE BUILT ON THE GRADE OR VERTICAL CURVE SHOWN ON PLANS.
SLABS, CURBS AND PARAPETS SHALL CONFORM TO THE GRADE OR CURVE.
ALL DIMENSIONS WHICH ARE GIVEN IN SECTION AND ARE AFFECTED BY DEAD LOAD DEFLECTIONS ARE DIMENSIONS AT CENTER LINE OF BEARING UNLESS OTHERWISE NOTED ON PLANS. IN SETTING FORMS FOR STEEL BEAM BRIDGES AND PRESTRESSED CONCRETE GIRDER BRIDGES, ADJUSTMENTS SHALL BE MADE DUE TO THE DEAD LOAD DEFLECTIONS FOR THE ELEVATIONS SHOWN. WHERE BLOCKS ARE SHOWN OVER BEAMS FOR BUILDING UP TO THE SLAB, THE VERTICAL DIMENSIONS OF THE BLOCKS SHALL BE ADJUSTED BETWEEN BEARINGS TO COMPENSATE FOR DEAD LOAD DEFLECTIONS, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER. WHERE BOTTOM OF SLAB IS IN LINE WITH BOTTOM OF TOP FLANGES, DEPTH OF SLAB BETWEEN BEARINGS SHALL BE ADJUSTED TO COMPENSATE FOR DEAD LOAD DEFLECTION, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER.

IN SETTING FALSEWORK AND FORMS FOR REINFORCED CONCRETE SPANS, AN ALLOWANCE SHALL BE MADE FOR DEAD LOAD DEFLECTIONS, SETTLEMENT OF FALSEWORK, AND PERMANENT CAMBER WHICH SHALL BE PROVIDED FOR IN ADDITION TO THE ELEVATIONS SHOWN. AFTER REMOVAL OF THE FALSEWORK, THE FINISHED STRUCTURES SHALL CONFORM TO THE PROFILE AND ELEVATIONS SHOWN ON THE PLANS AND CONSTRUCTION ELEVATIONS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR FALSEWORK OR FORMS FOR BRIDGE SUPERSTRUCTURE AND ANY STRUCTURE OR PARTS OF A STRUCTURE AS NOTED ON THE PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE CONSTRUCTION OF THE FALSEWORK OR FORMS IS STARTED.

REINFORCING STEEL:

ALL REINFORCING STEEL SHALL BE DEFORMED. DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO CENTERS OF BARS UNLESS OTHERWISE INDICATED IN THE PLANS. DIMENSIONS ON BAR DETAILS ARE TO CENTERS OF BARS OR ARE OUT TO OUT AS INDICATED ON PLANS.

WIRE BAR SUPPORTS SHALL BE PROVIDED FOR REINFORCING STEEL WHERE INDICATED ON THE PLANS. WHEN BAR SUPPORT PIECES ARE PLACED IN CONTINUOUS LINES, THEY SHALL BE SO PLACED THAT THE ENDS OF THE SUPPORTING WIRES SHALL BE LAPPED TO LOCK LEGS ON ADJOINING PIECES.

STRUCTURAL STEEL:

AT THE CONTRACTOR'S OPTION, HE MAY SUBSTITUTE 7/8" Ø SHEAR STUDS FOR THE 3/4" Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF 7/8" Ø STUDS ALONG THE BEAM AS SHOWN FOR 3/4" Ø STUDS BASED ON THE RATIO OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS. STUDS OF THE LENGTH SPECIFIED ON THE PLANS MUST BE PROVIDED. THE MAXIMUM SPACING SHALL BE 2'-0".

EXCEPT AT THE INTERIOR SUPPORTS OF CONTINUOUS BEAMS WHERE THE COVER PLATE IS IN CONTACT WITH BEARING PLATE, THE CONTRACTOR MAY, AT HIS OPTION, SUBSTITUTE FOR THE COVER PLATES DESIGNATED ON THE PLANS COVER PLATES OF THE EQUIVALENT AREA PROVIDED THESE PLATES ARE AT LEAST 5/16" IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2"OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE".

ELECTROSLAG WELDING WILL NOT BE PERMITTED.

WITH THE SOLE EXCEPTION OF EDGES AT SURFACES WHICH BEAR ON OTHER SURFACES, ALL SHARP EDGES AND ENDS OF SHAPES AND PLATES SHALL BE SLIGHTLY ROUNDED BY SUITABLE MEANS TO A RADIUS OF APPROXIMATELY 1/16 INCH OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE PRIOR TO PAINTING, GALVANIZING, OR METALLIZING.

HANDRAILS AND POSTS:

METAL STANDARDS AND FACES OF THE CONCRETE END POSTS FOR THE METAL RAIL SHALL BE SET NORMAL TO THE GRADE OF THE CURB, UNLESS OTHERWISE SHOWN ON PLANS. THE METAL RAIL AND TOPS OF CONCRETE POSTS USED WITH THE ALUMINUM RAIL SHALL BE BUILT PARALLEL TO THE GRADE OF THE CURB.

METAL HANDRAILS SHALL BE IN ACCORDANCE WITH THE PLANS. RAILS SHALL BE AS MANUFACTURED FOR BRIDGE RAILING. CASTINGS SHALL BE OF A UNIFORM APPEARANCE. FINS AND OTHER DEFORMATIONS RESULTING FROM CASTING OR OTHERWISE SHALL BE REMOVED IN A MANNER SO THAT A UNIFORM COLORING OF THE COMPLETED CASTING SHALL BE OBTAINED. CASTINGS WITH DISCOLORATIONS OR OF NON-UNIFORM COLORING WILL NOT BE ACCEPTED. CERTIFIED MILL REPORTS ARE REQUIRED FOR METAL RAILS AND POSTS.

SPECIAL NOTES:

GENERALLY, IN CASE OF DISCREPANCY, THIS STANDARD SHEET OF NOTES SHALL GOVERN OVER THE SPECIFICATIONS, BUT THE REMAINDER OF THE PLANS SHALL GOVERN OVER NOTES HEREON, AND SPECIAL PROVISIONS SHALL GOVERN OVER ALL. SEE SPECIFICATIONS ARTICLE 105-4.

ENGLISH